

CLAIMS

I claim:

1       1. A floating brake rotor assembly with non-load bearing  
2       pins, comprising:

3           an annular hub having an outer edge and a plurality of  
4       recesses defined in the outer edge, the recesses being spaced  
5       apart radially;

6           an annular brake rotor having an inner circumferential edge  
7       and a plurality of protruding members extending radially inward  
8       from the inner circumferential edge, the protruding members of  
9       the rotor and the recesses of the hub cooperating to define pin  
10      openings therebetween when the hub is placed inside and  
11      concentrically aligned with the rotor; and

12       a plurality of pins having a head and a shaft, the pins  
13      being inserted through the pin openings defined between the  
14      protruding members and the recesses, the head of each of the  
15      pins abutting the rotor and the hub; and

16       a retainer mounted on the shaft of the pin so that the hub  
17      and rotor are slightly slidable axially on the pins, load forces  
18      during braking bearing against mating surfaces of the rotor  
19      protruding members and hub recesses.

1       2. The floating brake rotor assembly according to claim 1,

2 wherein:

3       each of said protruding members has a pair of opposed,  
4 inwardly tapering bearing faces joined by a distal end surface,  
5 the distal end being concave; and

6       each of said recesses has two diverging bearing faces  
7 joined by a concave bottom surface, the bearing faces of said  
8 protruding members bearing against the bearing faces of said  
9 recesses, the pin opening being defined by the concave distal  
10 end of the protruding member and the concave bottom of the  
11 recess.

1       3. The floating brake rotor assembly according to claim 1,

2 wherein:

3       each of said protruding members has opposing first and  
4 second sides, the first side having a first cavity defined  
5 therein; and

6       each of said recesses has opposing third and fourth sides,  
7 the third side having a second cavity defined therein, the pin  
8 opening being defined by alignment of the first and second  
9 cavities.

1       4. The floating brake rotor assembly according to claim 1,  
2 wherein said plurality of protruding members and said plurality  
3 of recesses comprise six protruding members and six mating  
4 recesses.

1       5. The floating brake rotor assembly according to claim 1,  
2 wherein said brake rotor has a plurality of apertures defined  
3 therein for dissipation of heat generated during braking.

1       6. The floating brake rotor assembly according to claim 1,  
2 wherein said retainer comprises a spiral retaining spring.

1       7. The floating brake rotor assembly according to claim 1,  
2 wherein said retainer comprises a retaining ring.

1           8. A floating brake rotor assembly with non-load bearing  
2 pins, comprising:

3           an annular hub having an outer edge and a plurality of  
4 protruding members extending radially from the outer edge, the  
5 protruding members being spaced apart radially;

6           an annular brake rotor having an inner circumferential edge  
7 and a plurality of recesses defined in the inner circumferential  
8 edge, the protruding members of the hub and the recesses of the  
9 rotor cooperating to define pin openings therebetween when the  
10 hub is placed inside and concentrically aligned with the rotor;  
11 and

12           a plurality of pins having a head and a shaft, the pins  
13 being inserted through the pin openings defined between the  
14 protruding members and the recesses, the head of each of the  
15 pins abutting the rotor and the hub; and

16           a retainer mounted on the shaft of the pin so that the hub  
17 and rotor are slightly slidable axially on the pins, load forces  
18 during braking bearing against mating surfaces of the hub  
19 protruding members and rotor recesses.

1       9. The floating brake rotor assembly according to claim 8,  
2 wherein each said protruding member has a planar bearing face  
3 and an opposing concave side, and each of the recesses defined  
4 in said rotor has a planar bearing face and an opposing concave  
5 side, the bearing faces of said protruding members abutting the  
6 bearing faces of the recesses and the concave sides of said  
7 protruding members, and the recesses being aligned in order to  
8 define the pin openings.

1       10. The floating brake rotor assembly according to claim  
2 8, wherein said plurality of protruding members and said  
3 plurality of recesses comprise six protruding members and six  
4 mating recesses.

1       11. The floating brake rotor assembly according to claim  
2 8, wherein said brake rotor has a plurality of apertures defined  
3 therein for dissipation of heat generated during braking.

1       12. The floating brake rotor assembly according to claim  
2 8, wherein said retainer comprises a spiral retaining spring.

1       13. The floating brake rotor assembly according to claim  
2 8, wherein said retainer comprises a retaining ring.